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ABSTRACT

This report of the Southern Highlands Environmental Project (SHEP) in North Carolina describes its initiation, needs assessment, teacher institute, classroom implementation, outcomes, and dissemination. The purpose of this project was to prepare and support Appalachian teachers in leading their students in investigations of local and regional environmental concerns. The project began with a needs assessment from which a five-day teacher institute was developed. Teachers then assisted their students in investigating local environmental issues with students sharing their work through science fair projects, parent-teacher meetings, or articles in local newspapers. Teachers submitted project reports and, as part of the project evaluation, participated in a two-hour telephone interview. The evaluation documented the implementation and results of the project and demonstrated that the project's basic goals were achieved. Contains 15 references. (DDR)

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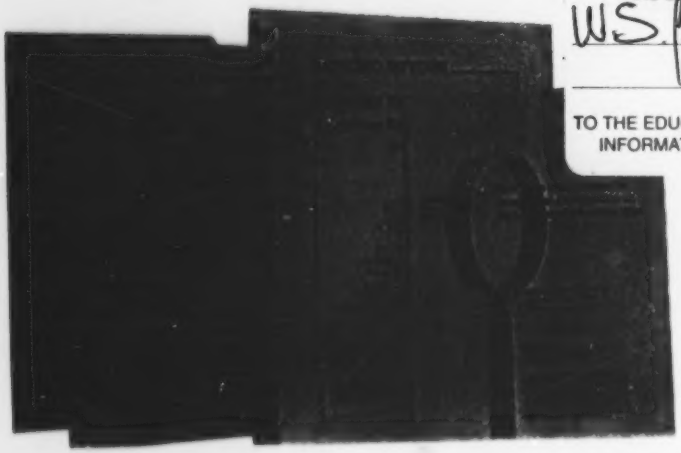

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Project Report

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Appalachian Consortium, Boone, North Carolina

Promoting Student Investigation of Local Environmental Issues through the Southern Highlands Environmental Project

Project Report

by Woodward S. Bousquet

Project evaluation by Diane C. Cantrell

Co-sponsored by the Appalachian Consortium, Boone, North Carolina, and Warren Wilson College, Swannanoa, North Carolina, with support from the Z. Smith Reynolds Foundation, Winston-Salem, North Carolina.

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June, 1993

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Summary

From 1985 through 1990, the Appalachian Consortium developed and sponsored a different approach to inservice teacher education -- the Southern Highlands Environmental Project (SHEP). Its purpose was to prepare and support Appalachian teachers in leading their students in investigations of local and regional environmental concerns.

The Project began with a needs assessment survey. Results of this survey were used to design a five-day teacher institute, which was held in July, 1988. During the 1988-89 school year, teachers assisted their students in investigating environmental issues in their home communities and, when appropriate, becoming involved in addressing those issues. Most student groups shared the results of their work through science fair projects, PTO meetings, or articles in local newspapers. Participating teachers submitted project reports when their environmental units were completed. An evaluation, which included a two-hour telephone interview with each teacher, documented the implementation and results of the Southern Highlands Environmental Project. The evaluation demonstrated that the Project's basic goals were achieved.

This report describes the Project's initiation, needs assessment, teacher institute, classroom implementation, outcomes, and dissemination. Elements of its success are presented as a model for the introduction of community-focused environmental education in schools.

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Introduction

Environmental Education

Environmental education sprang from the environmental activism of the late 1960s. It was not entirely new, however. Its practitioners borrowed ideas from, and its proponents built upon the accomplishments of, nature study, conservation education and outdoor education -- three educational movements that had originated a half-century or more earlier.

The phrasing may differ, but most educators agree that the purpose of environmental education (EE) is to help citizens understand natural and cultural environments, become aware of environmental problems, and develop the motivation and the skills to work toward their solution (Roth, et al., 1980). Although EE can take place at parks, nature centers and camps, and it can be presented through newspapers, radio and television, a great deal of energy has been devoted to incorporating environmental issues and concepts into the K-12 school curriculum. "Get it into the schools" is repeated almost mantra-like by many environmentalists, politicians and educators.

Short-term workshops and institutes have been the most popular vehicles for helping teachers "environmentalize" their classroom programs. These forms of inservice teacher education have taken on a variety of formats (Rakow, 1985) and have met with varying degrees of success (Ham, et al., 1987-88). The standard approach has been a Saturday session in which activity guides are provided and teaching methods are demonstrated. Longer-term formats such as weekend workshops and semester-long graduate courses have also been utilized, but they make up a small percentage of the total number of inservice education opportunities offered.

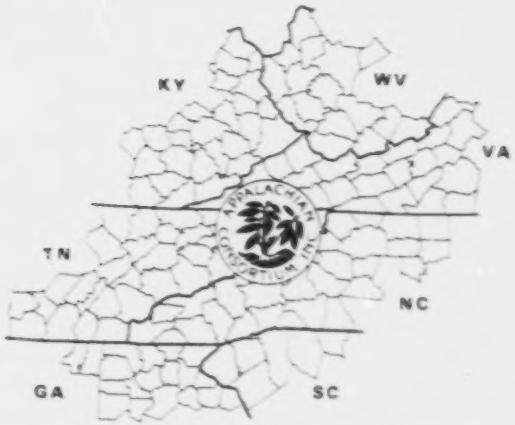
The Appalachian Consortium Becomes Involved, 1985

The Appalachian Consortium is a nonprofit educational organization serving 156 counties in the mountainous portions of seven southeastern states (Figure 1). Dedicated to preserving and protecting the heritage of southern Appalachia, the organization was founded in 1971 by a group of concerned citizens and educational leaders. Currently, the Consortium has 15 institutional members. This diverse group consists of three government agencies, two artisans' associations, seven colleges and universities, two environmental organizations, and a historical society.

The Consortium's primary objective is to provide services to the region to improve the quality of life, promote regional cooperation, and raise the pride of Appalachian people in their traditions and region. Activities of the Consortium have included summer institutes for teachers, conferences and seminars on regional scholarship, travelling museum exhibitions, and historic resource studies. The Appalachian Consortium Press, a Consortium division, has published over 50 manuscripts dealing with southern Appalachia.

Figure 1

Appalachian Consortium Service Region



The Consortium expanded its efforts during the past decade to work with public school teachers and administrators. The organization, with funding from the National Endowment for the Humanities, offered two Southern Highlands Institutes for Educators, one dealing with Appalachian studies and the other dealing with cultural values in American literature. Both institutes brought public school educators together with regional scholars from member colleges and universities.

Late in 1985 the Appalachian Consortium's Committee on Regional Cooperation and Development met to explore how the Consortium could support another educational effort -- environmental education -- in its service region. Committee members agreed that EE efforts sponsored by the Consortium should deal primarily with regional issues rather than, for instance, species identification or outdoor adventure skills. An issue-oriented focus would match the organization's objectives and fill a suspected gap in existing school programs. The Committee formally endorsed an environmental education project and formed an EE subcommittee.

Warren Wilson College, an institutional member of the Appalachian Consortium, began its environmental studies program in 1977. Environmental education is available as one of seven concentrations within the environmental studies major. Thus, the College is one of the few institutions of higher education in the Southeast to offer an EE program. In light of Warren Wilson's membership in the Consortium, its own longstanding commitment to Appalachia, and its activities in environmental studies, the College's leadership in Consortium activities related to EE was considered appropriate.

Needs Assessment and Project Design, 1986-87

Needs Assessment

No hard data existed on EE needs and priorities across the Appalachian region, so a needs assessment was necessary. Consortium members and a seven-person review panel developed and refined the survey questionnaire. A list of the region's school districts was complied from Patterson's American Education (Moody, 1977). From the 211 districts identified, a random sample of 105 (49.8%) was drawn for the study. Survey materials were sent to district superintendents, who were asked to give them to an appropriate teacher or curriculum coordinator to complete and return.

A second population was also sampled. This group was teachers who had taken part in the Consortium's past educational programs. From a mailing list of 118 participants, a random sample of 59 (50.0%) was drawn.

Each superintendent or teacher was sent the questionnaire, directions and a stamped return envelope. People who did not respond to the survey by the date requested received a follow-up letter, duplicate questionnaire and return envelope. (See Appendix for the needs assessment questionnaire and follow-up letter.) By the final deadline, 70 of the 105 school district representatives had responded, and 29 of the 59 teachers from the Appalachian Consortium mailing list had responded -- an overall return rate of 60.4%.

Although environmental education turned out to be a low priority in actual practice, the survey respondents supported a greater emphasis upon EE in their classrooms, schools and districts. Nearly four-fifths (79.4%) agreed that an EE workshop focused on regional issues would be valuable, and 89.1% said that they would recommend such a program to other educators. Approximately one-third (34.1%) even indicated a willingness to share a lesson or teaching resource at such a workshop.

Probably the most revealing and useful data came from responses to questions about teachers' interests in various environmental topics relevant to Appalachia. The questionnaire presented a list of 17 possibilities. Persons completing the survey were asked to rate each issue in terms of their interest in 1) learning about the topic itself, and 2) learning methods and resources for teaching the topic. Seven topics attracted particularly high ratings (Table 1). A more detailed description of the needs assessment process and its results appears elsewhere (Bousquet and Jarvis, 1986).

Project Design and Funding Proposals

The region's educators were clearly interested in EE, and they wanted to learn more about particular issues confronting Appalachia and their home communities. These findings helped guide the design of the what eventually became known as the Southern Highlands Environmental Project (SHEP). The Consortium's Environmental Education Subcommittee established the four goals for the Southern Highlands Environmental Project that appear in Table 2.

Table 1

Environmental Topics Receiving the Highest Ratings on the Needs Assessment

Toxic Wastes
Endangered Species and Natural Areas
Wildlife
Environmental Ethics
The Relationship between Appalachian Cultures and Environments
Air Pollution and Acid Rain
Water Resources

Table 2

Goals of the Southern Highlands Environmental Project

1. Improve each participating teacher's understanding of local and regional environmental issues facing Southern Appalachia.

2. Enhance each participating teacher's confidence, interest and, competence in teaching students about local and regional environmental issues.

3. Increase the understanding that students in each participating teacher's class have of local and regional environmental issues.

4. Involve participating teachers and their students in studying their local community and the environmental issues it confronts, thereby increasing their motivation and ability to identify, analyze and become involved in resolving these issues.

Although the long-range goal of the Project is to reach schools in all seven Southern Highlands states, the Consortium decided to test the initial effort with a small number of educators in a limited area. Funding proposals went to three foundations. In May, 1987, the Z. Smith Reynolds Foundation of Winston-Salem, North Carolina, awarded the Consortium a $20,000 grant to start the Southern Highlands Environmental Project in western North Carolina.

The Teacher Institute and Classroom Projects, 1988-89

Investigating environmental issues requires some basic conceptual background and an ability to deal with abstract ideas, but the concepts and investigation process can be taught through a variety of instructional approaches. Therefore, the EE Subcommittee decided to target students in grades 5 through 12. A brochure was designed to invite their teachers to take part in SHEP. Brochures were sent to elementary school principals and to science and social studies department heads in western North Carolina's middle and secondary schools. Each Project applicant was asked to submit a statement of intent, a resume', and an administrator's letter of support. Twenty-two teachers from western North Carolina, two observers from 4-H, plus a participant from Maine sponsored by the Atlantic Center for the Environment (Ipswich, Massachusetts), were selected. (The Appendix contains a list of participants.)

A five-day teacher institute at Warren Wilson College in July, 1988, opened the Project. (The complete schedule for the institute appears in the Appendix.) After an introduction to the geology and human settlement of western North Carolina, the teachers used the first volume of Emerging Patterns in the Southern Highlands (Lovingood and Reiman, 1985) to gain insight into the region's geography. The group then drove to Asheville and climbed a hill that provides a sweeping panorama of the city below. This dramatic setting served as the site for discussing Eller's "The Problems and Promise of Regional Life" (1985), a paper that the participants had read before the institute. To set the stage for studying community issues, participants met with the director of Asheville-Buncombe Discovery, an organization involved in issues related to community growth, protection and development.

Back at Warren Wilson the next day, a panel discussed the problems of managing toxic and hazardous wastes. One of the most popular institute sessions turned out to be the poster session featuring various EE teaching resources and regional organizations and agencies that deal with the environment. Curriculum specialists then led teachers in examining and trying out a number of instructional materials. Each teacher received copies of The CLASS Project (National Wildlife Federation, 1982), Roth and Lockwood's Strategies and Activities for Using Local Communities as Environmental Education Sites (1979), and Investigating and Evaluating Environmental Issues and Actions (Hungerford, et al., 1985). The teachers also took part in a simulation on siting a low-level radioactive waste disposal facility (Okun, 1988).

The group visited the Great Smoky Mountains National Park to explore the relationships between Appalachian settlers and the environment at the Oconoluftee Pioneer Farm, and they studied air quality problems at the Park's high-elevation air pollution monitoring station. For many teachers, the institute's highlight was a day-long examination of environmental issues in Asheville. In small groups, the participants selected and designed studies of planning and zoning, water supply, open space preservation and riverfront development. Conducting and reporting on the investigations themselves

allowed teachers to practice the skills and evaluate the curriculum materials they had been learning about in the institute.

The institute closed with a planning session. Teachers reviewed the North Carolina Department of Public Instruction's K-12 curricular guidelines, identifying objectives and competencies that specifically mentioned or related directly to environmental quality, the local community and citizenship skills for their grades and subject areas. Each teacher began designing a "community investigation unit" to carry out with his or her students during the 1988-89 school year. Final plans for the units were submitted in September, 1988.

The teachers rated the July institute as very helpful in implementing their subsequent school-year activities. The field trips and Asheville investigation were seen as the most worthwhile institute sessions. Most of them wanted even more time spent on developing ways to integrate community studies into their classroom curricula.

Enthusiasm often runs high at the end of a teacher workshop, and the SHEP institute was no exception. But would that interest sustain itself through all the demands of the school year? How would the participants actually implement their plans? How would students respond?

The SHEP objectives were demanding. Teachers were expected to do without textbooks and most prepackaged instructional materials. They and their students were to investigate real environmental problems in their home communities and get out into those communities as much as possible.

One teacher later explained,

> *I wasn't sure about how much success I would have. It was new to me. It was hard to think about integrating it into what I had been doing.*

Stated another participant,

> *You can't get too many irons in the fire, so I was a little worried about keeping it* [the unit] *together . . . plus taking care of all the other responsibilities I have at school.*

Project Evaluation, 1989-90

Teachers play the key role in translating an educational innovation, such as EE, from theory into practice. Their role as implementers is central to the process of curricular change (Crandall, 1983; Cantrell, 1987). Fullan (1982, p. 41) wrote, "Implementation is the means to achieving certain outcomes; evaluations have limited value and can be misleading if they only provide information on outcomes [emphasis in the original]." Therefore, in order to understand the Project's impact, it was important to know both what the teachers did as well as how their students responded.

Dr. Diane Cantrell of The Ohio State University's Newark campus carried out the evaluation. She had served as one of the teacher institute's curriculum specialists, so the participants knew her well. Since both the implementation process and the project outcomes were of interest, the standard pretest-posttest/analysis-of-variance research design was not the best approach for investigating how teachers incorporated SHEP into their curricula. A qualitative study was more appropriate. Three broad questions were examined:

1. How effective was the Institute in reaching the Project goals?

2. To what extent and in what manner did participating teachers implement programs and practices from the Institute into their school curricula, specifically through community investigations?

3. To what extent are the goals of the Project evident in the teachers' implementation?

Cantrell conducted two-hour telephone interviews with each Project teacher after the teacher had finished his or her unit and submitted the required final report. These interviews were taped, transcribed, and then analyzed for categories and themes present in the teachers' responses. Cantrell also examined the Project's written documentation including the teachers' applications, the institute syllabus and other handouts, evaluation forms, community investigation unit plans, and each teacher's final project report.

Did the teachers implement their community investigation units? Of the 18 teachers who were expected to complete projects, 15 (83%) did so. One of the teachers who did not carry out a SHEP unit was expecting a baby, another moved out of state during the school year, while the third felt inexperienced and found it difficult to match students' expectations with hers (she was a vocational education teacher). An additional teacher wrote a proposal for his students to develop a nature trail on county property. The project remained unfinished at the end of the 1988-89 school year because of heavy spring rains and the school and county government's "red tape." He and his students completed the trail the following year and held a public dedication ceremony.

In general, the five-day July institute accounted for almost half of the ideas that participating teachers incorporated into their community investigation units during the following school year. Slightly more than half of the ideas came from the teachers' own resources including textbooks, lectures, audiovisual materials,

laboratory experiences, childrens' literature, bulletin boards, music, and teacher-created activities. The teachers differed in how the investigation units fit into their overall curricula. Four teachers incorporated SHEP throughout the year, sometimes with concentrated blocks of activities. Three spoke to the evaluator about correlating SHEP goals with North Carolina's educational objectives. The two teachers with self-contained classrooms said that they integrated the project with all academic subjects. Two had no specific curriculum and, therefore, had the freedom to develop their classroom programs as they wished.

What kinds of issues and projects were involved? All of the students' projects reflected the goals of the Southern Highlands Environmental Project. In each case, students studied environmental issues of concern to their local community. While the topics chosen varied, almost all of them related directly or indirectly to the seven environmental topics identified through the needs assessment (Table 1) and listed in the grant proposal to the Z. Smith Reynolds Foundation.

An Iredell County class, for example, selected recycling because their county's landfill was approaching capacity and students felt that solid waste was a problem they could do something about. The recycling program they set up earned over $100 that spring, and the money went for science equipment. The program continued during the next school year. Students in a Transylvania County middle school worked with a local garden club to improve their school's nature trail property for wildlife habitat. A high school class began an acid precipitation monitoring program. In a downtown Asheville school, students conducted several projects related to soil and water conservation. They attended local hearings on obtaining drinking water from the French Broad River, they circulated a petition against cutting trees along a highway, they invited people with different viewpoints on various issues to speak to their class, and they carried out several science fair experiments related to local conservation issues. Most classes presented their projects at local P.T.O. meetings or obtained newspaper coverage about their activities

How community-focused were the units? After an analysis of the types of activities the students carried out, Cantrell developed a "continuum of community involvement" (Figure 2) to characterize what took place. At one end of the continuum was writing to a government office for information or inviting a guest speaker to class. Little or no direct student contact with the local community happened. Examples of middle-range community involvement included going on a field trip, attending a public hearing, or inviting a community member to class and having small groups of students interview that person. Activities representing high levels of local contact were conducting opinion surveys and giving public presentations.

Figure 2

Continuum of Community Involvement

High Involvement in the Community

Implement community action project (6)*
Conduct community study (3)
Conduct survey or interview outside the school (7)
Attend public hearing (1)
Go on a field trip (11)
Implement school-oriented action project (3)
Do class activities reaching beyond the school (7)
Involve parents (6)
Conduct survey or interview inside the school (3)
Listen to a guest speaker (8)
Write to an agency (1)
Read and/or watch local news media (4)
Do activities or projects in the classroom (14)

Low Involvement in the Community

* The number in parentheses indicates how many of the 15 teachers who carried out their units during the 1988-89 school year had classes that took part in each activity.

This continuum illustrates the range of activities engaged in by the teachers and their students. The teachers did involve their students in the local community and the community became involved with the students. The majority of activities, however, fell towards the "low involvement" end of the continuum, reflecting the high number of regular classroom activities that the SHEP teachers continued to conduct. Nevertheless, all teachers reported that they had moved "up" in the continuum during the 1988-89 year as a result of participating in the Southern Highlands Environmental Project. That is, their activities dealt with the students' local communities to a greater degree than had been true in the past.

Prior to taking part in the Southern Highlands Environmental Project, only five (36%) of the teachers said that they taught about environmental issues, and only three of these teachers indicated that their lessons focused on the local community in some way. The remaining teachers (64%) stated that they taught

little or nothing about environmental issues. After completing the teacher institute, carrying out the community investigation units with their students, and submitting their final reports, all of the teachers expressed positive feelings about studying environmental issues in their local communities.

As far as the community investigations themselves are concerned, the length and richness of teachers' comments speak to their success:

> *When we started doing the community study* [during the July institute] *I felt like this is really an imposition on people who are busy. I think when I got home I would have continued to feel that way had I not actively done it myself and gotten the response that we got from the people. That made me feel totally different.*

> *I think the students' interactions with each other certainly helped with their maturity level. When we did our interviews, there was no silliness*

> *When you teach . . . you want them to become self-motivating. You show them the way and they go out and do it. . . .* [I didn't tell] *them about cutting the trees. They recognized the issue and then they got together and did something about it.*

> *The Institute helped me to get a little more confident to actually try a few community investigations because I went out and did one myself. . . Maybe in my mind I thought people were going to be a little more hostile or more untouchable than they were. . . I learned a lot and it really helped me in the upcoming school year.*

> *The students realized that they should recycle* [because] *it's a very current issue in our county if not all over the country . . . They have improved their parents' awareness. When children are concerned about it [recycling], they go home and talk to their parents.*

> *There were several issues that were voted on or finalized during the year, and the kids felt they had some part in the process . . . a personal knowledge and interest in it. They would come running in and say, 'This is the way the vote came out.' . . . If I hadn't done the project they wouldn't have cared.*

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Extending the Project's Impact, 1989-1993

Teachers were expected to broaden the impact of the Project in two ways. First, they were asked to involve their students in organizing a culminating activity, such as an environmental forum or festival, to share their investigations with the general public. While every teacher except one shared the results of the project in some way, no teacher's students achieved the level of organization and publicity implied by the terms "festival" and "forum." The highest level of sharing was making presentations to outside groups. This level included a presentation to a regional garden club meeting, mailing of two student-produced reports to local agencies, and a display of posters at a mall.

The second means of broadening the impact of SHEP was requesting that participating teachers make at least one presentation to other professional educators. A videotape was planned to assist the teachers in these presentations. The video was not developed, however, because of the unanticipated time and production costs involved. Some participating teachers informally shared their work with other teachers and supervisors. Two gave a presentation with the institute director at an Appalachian Studies Association conference. Overall, though, this expectation was not well met.

Nevertheless, several formal presentations about the Southern Highlands Environmental Project have been made, and a journal article has been accepted for publication. These are listed below.

Bousquet, Woodward S., and Diane C. Cantrell. 1989. The Southern Highlands Environmental Project. Presentation at the annual conference of the North American Association for Environmental Education, August 20-23, 1989, Estes Park, Colorado.

Bousquet, Woodward, Dorinda Cartin, and Samuel Cathey 1990. Promoting Environmental Education through the Southern Highlands Environmental Project: An Inservice Teacher Education Model for the Region. Presentation at the Thirteenth Annual Appalachian Studies Association Conference, March 23-25, 1990, Helen, Georgia.

Cantrell, Diane C. 1990. Community Studies Serve as Vehicles for Moving Teachers and Students to Action. Presentation at the annual conference of the North American Association for Environmental Education, November 2-7, 1990, San Antonio, Texas.

Cantrell, Diane C. (in press). Community Studies Serve as Vehicles for Moving Teachers and Students to Action. Connections Journal.

An additional means of extending impact of the Southern Highlands Environmental Project is this report. Although its completion has been delayed, primarily because of the author's increased responsibilities at his home institution, the report will present the Project's design and results to a wider audience. It will be distributed to curriculum coordinators in southern Appalachian school districts, Appalachian Consortium members, participating teachers, persons attending various conference presentations about the Project,

and others interested in environmental education or Appalachian studies. It will also be submitted to the Educational Resources Information Clearinghouse (ERIC) so that it can be considered for inclusion in the ERIC database. By documenting SHEP in written form, it is hoped that people interested in community-focused EE will benefit from the experiences of the Project's facilitators, participating classroom teachers, and students.

Toward an Inservice Teacher Education Model for Investigating Local Environmental Issues

As explained in the introduction to this report, the Southern Highlands Environmental Project differs from most other EE teacher inservice educational efforts in a number of ways. The evaluation strongly suggests that several aspects of the Project's design have been -- at least in part -- responsible for its overall success in assisting teachers in involving their students in investigating environmental issues in their home communities. These aspects include the five described below.

Teacher Input

The Project was not a "top-down" effort. Responses to the needs assessment provided a basis for tailoring the Project to the 1988-89 participants' needs and interests. Two-hour interviews with each SHEP teacher at the end of the year revealed important Project strengths and identified areas needing improvement.

Specific Expectations

Identifying trees or reading about the depletion of the Earth's ozone layer were not part of the SHEP teacher institute -- as worthwhile as these EE activities are. Instead, teachers were asked to plan a unit that focused on local and regional issues and ways the students could become involved in investigating and possibly helping to address these issues. Research has shown that if community investigation and action are desired outcomes, then the teacher must build specific investigation and action skills into his or her unit plans (Hungerford, et al., 1985; Hines, et al., 1986-87). Students do not develop these skills spontaneously just because their motivation to help solve environmental problems may be raised through nature appreciation lessons or discussions of global problems.

Active Involvement

The curriculum materials and issues in the five-day teacher institute were not simply talked about. The teachers tried out many lessons themselves, shared them with their colleagues, and matched state-mandated competencies for their grades and subjects with the curriculum materials they examined. They visited an air pollution monitoring station in the middle of a dying forest to better understand the complex causes of forest decline. And, probably most important, during the teacher institute they planned and conducted their own studies of issues facing Asheville so they would feel more comfortable in assisting students in doing similar studies in their home cities and towns.

Extended Contact

The Project did not end at the close of the July institute. Teachers completed proposals for their community investigation units at the beginning of the school year and sent them to the institute director. Many contacted the institute director during the school year. After the units were completed, participants prepared and submitted final reports and received feedback. If the Project continues with additional groups of teachers, several teachers from the 1988-89 group will be asked to serve as resource persons for future SHEP institutes.

Incentives

All participants received a $200 stipend. Four graduate credits from Appalachian State University were also available Only one teacher, however, identified the stipend or credit as a primary reason for participating in SHEP. Nevertheless, these incentives appeared to function in more subtle, but still significant, ways. Teachers received only half of their stipends after the July 1988 institute; the $100 balance was sent after the institute director received the teacher's final report, usually near the end of the 1988-89 school year. Similarly, graduate credit was awarded only after the teacher wrote his or her final report. Although no comparative study was carried out on this question, common sense supports the conclusion that withholding credit and half the stipend until the entire year-long project work was completed helped assure that teachers would actually carry out the activities with their students.

* * *

These five aspects of the Southern Highlands Environmental Project offer some direction for efforts with similar purposes. Most environmental issues cross the borders of a given town or city, extending across entire regions. Many continue further to national and global levels. Thus, SHEP can serve as a model for other inservice EE projects that focus on local connections while building regional perspectives. The Project illustrates how an understanding of teachers' needs, careful planning, a diversity of resources, enthusiastic school teachers, and an extended project format can foster an understanding of and concern for local environmental issues in both students and their instructors.

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Appendix

Needs Assessment Questionnaire

Follow-up Letter for Needs Assessment

List of Participants

Teacher Institute Schedule

Appalachian State University · Lees-McRae College
Blue Ridge Parkway · Mars Hill College
East Tennessee State University · Mountain Regional Library
APPALACHIAN CONSORTIUM
N. C. Division of Archives & History · Warren Wilson College
Southern Highland Handicraft Guild · Western Carolina University
United States Forest Service · Western N. C. Historical Assoc.

CONSERVATION AND ENVIRONMENTAL EDUCATION QUESTIONNAIRE

In conjunction with the Appalachian Consortium, Warren Wilson College is conducting a conservation and environmental education needs assessment in the Southern Appalachian region.

If significant needs are demonstrated, the Appalachian Consortium and Warren Wilson College plan to develop proposals to fund a series of conservation and environmental education teacher institutes in the region. These workshops would follow the approach and format of the Consortium's recent Appalachian Studies Teacher Institutes which have assisted teachers in incorporating Appalachian studies into their classroom activities.

We want to match our workshops to your particular needs and interests. Therefore, we need your assistance in completing the enclosed survey.

Please use the return envelope provided. In order to meet deadlines for planning the workshops, we need your response by April 4, 1986.

The return envelope has a code number to enable us to contact people who haven't returned their questionnaires by April 4th. Your individual responses will be kept confidential.

If you have any questions about the survey you may direct them to Woodward S. Bousquet at Warren Wilson College (704/298-3325). Thank you for your time and cooperation.

Sincerely,

Woodward S. Bousquet
Chair, Environmental Studies Program
Warren Wilson College

Ralph W. Jarvis
Exchange Associate
Appalachian Consortium

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10. If support is weak, what prevents a stronger emphasis on conservation and environmental education in your district ?

_____

_____

_____

11. Do you think that a workshop on conservation and environmental education for the Southern Appalachian region would be valuable ?

____ Yes ____ No ____ Undecided

12. If this program were offered for five days during the summer, would you:

a) Be interested in attending yourself ?

____ Yes ____ No ____ Undecided

b) Recommend it to other educators ?

____ Yes ____ No ____ Undecided

c) Share a lesson or resources at the program ?

____ Yes ____ No ____ Undecided

13. REGIONAL TOPICS Please indicate, using the scale, how interested you would be in :

	Learning about the Topic itself?					Learning some methods and resources for teaching this topic ?				
	Not at all	Somewhat			Extremely	Not at all	Somewhat			Extremely
Southern Appalachian Geology and Geography	1	2	3	4	5	1	2	3	4	5
Natural History of the Appalachian Region	1	2	3	4	5	1	2	3	4	5
Principles of Ecology	1	2	3	4	5	1	2	3	4	5
Relationships Between Economics and Environmental Quality	1	2	3	4	5	1	2	3	4	5
Relationships Between Southern Appalachian Cultures and the Environment	1	2	3	4	5	1	2	3	4	5
Forests and Forestry	1	2	3	4	5	1	2	3	4	5
Energy and Energy Resources	1	2	3	4	5	1	2	3	4	5
Water Resources and Water Pollution	1	2	3	4	5	1	2	3	4	5

(Continued on the next page)

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Conservation and Environmental Education Questionnaire

1. Please supply the following information:
   a) Number of years spent teaching: _____ b) Grades taught:_____

2. Subjects taught: ___ Social Studies ___ Science
   ___ Language Arts ___ Mathematics ___ Vocational Education

3. To what extent are topics related to conservation and environmental education currently included in your :
   a) Classroom : ___ Extensive ___ Moderate ___ Little ___ Not At All
   b) School : ___ Extensive ___ Moderate ___ Little ___ Not At All
   c) District : ___ Extensive ___ Moderate ___ Little ___ Not At All

4. How many hours per week do you provide conservation and environmental education instruction ? _____

5. In your classroom,which of the following areas of conservation and environmental education do you cover ? (Check all that apply)
   a) ___ Nature Study and Ecology
   b) ___ Conservation Methods
   c) ___ Environmental Issues
   d) ___ People's Relationship to the Environment
   e) ___ Other (specify) _____

6. Please check the method(s) you use to present this material.
   a) ___ Classroom instruction b) ___ Field trip
   c) ___ Laboratory d) ___ School site study
   e) ___ Other (specify) _____

7. Have you ever participated in a conservation or environmental education course or workshop ? ____ Yes ____ No

8. To you, how important is a stronger conservation and environmental education curriculum in your :
   a) Classroom : ___ Very ___ Moderately ___ Slightly ___ Not At All
   b) School : ___ Very ___ Moderately ___ Slightly ___ Not At All
   c) District : ___ Very ___ Moderately ___ Slightly ___ Not At All

9. To what extent are conservation and environmental education empasized and supported locally by your:
   a) State board of education __ Strongly __ Moderately __ Slightly __ Not at all
   b) School board __ Strongly __ Moderately __ Slightly __ Not at all
   c) Superintendent __ Strongly __ Moderately __ Slightly __ Not at all
   d) Principal __ Strongly __ Moderately __ Slightly __ Not at all
   e) Student's parents __ Strongly __ Moderately __ Slightly __ Not at all
   f) Fellow teachers __ Strongly __ Moderately __ Slightly __ Not at all

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	Topic					Methods				
	Not at all		Somewhat		Extremely	Not at all		Somewhat		Extremely
Production and Disposal of Toxic and Hazardous Wastes	1	2	3	4	5	1	2	3	4	5
Litter, Solid Waste and Recyling	1	2	3	4	5	1	2	3	4	5
Wildlife and Wildlife Management	1	2	3	4	5	1	2	3	4	5
Endangered Species and Natural Areas	1	2	3	4	5	1	2	3	4	5
Coal Mining and Related Environmental Issues	1	2	3	4	5	1	2	3	4	5
Mineral Resources	1	2	3	4	5	1	2	3	4	5
Air Pollution and Acid Rain	1	2	3	4	5	1	2	3	4	5
Land Use and Planning	1	2	3	4	5	1	2	3	4	5
Environmental Ethics and Responsibility	1	2	3	4	5	1	2	3	4	5

14. GENERAL METHODS:

Please indicate, using the scale, how interested you would be in workshops dealing with the methods and resources for :

Organizing a 1/2 or 1 Day Field Trip	1	2	3	4	5
Organizing a 2 to 5 Day Field Trip	1	2	3	4	5
Studying Conservation and Environmental Issues in your Local Community	1	2	3	4	5
Using your School Site for Conservation and Environmental Education	1	2	3	4	5

15. If you would be interested in further information about this project please provide the information below.

Name:_____

Address: _____

_____

_____

Telephone: Office _____ **Home**_____

Please use the back of this page for additional comments, suggestions and recommendations for persons to contact.

Thank you for your assistance. Please return this questionnaire in the envelope provided by APRIL 4, 1986. Return to:

Woodward S. Bousquet, Warren Wilson College
701 Warren Wilson College Road
Swannanoa, North Carolina
28778

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Appalachian State University
Blue Ridge Parkway
East Tennessee State University
Lees McRae College
Mars Hill College
Mountain Regional Library
APPALACHIAN CONSORTIUM
N. C. Division of Archives & History
Southern Highland Handicraft Guild
United States Forest Service
Warren Wilson College
Western Carolina University
Western N. C. Historical Assoc

May 12, 1986

Dear Superintendent:

Six weeks ago we mailed you a Conservation and Environmental Education Questionnaire to give to a teacher or curriculum coordinator to complete and return.

Our records indicate that we have not yet received a response. We would still appreciate your assistance.

Could you give the enclosed materials to an appropriate teacher or curriculum coordinator? A duplicate questionnaire and return envelope are provided in case the originals have been misplaced.

In order to meet our planning deadlines, we need a response no later than May 24, 1986.

Sincerely,

Woodward S. Bousquet

Woodward S. Bousquet
Chair, Environmental Studies Program
Warren Wilson College

Ralph W. Jarvis

Ralph W. Jarvis
Exchange Associate
Appalachian Consortium

Preserving, Protecting and Promoting Southern Appalachia

University Hall • Appalachian State University • Boone, North Carolina 28608 • 704/262-2064

Appalachian State University
Blue Ridge Parkway
East Tennessee State University
Lees McRae College
Mars Hill College
Mountain Regional Library
APPALACHIAN CONSORTIUM
N. C. Division of Archives & History
Southern Highland Handicraft Guild
United States Forest Service
Warren Wilson College
Western Carolina University
Western N. C. Historical Assoc

May 12, 1986

Dear Teacher:

Six weeks ago we mailed you a Conservation and Environmental Education Questionnaire to complete and return.

Our records indicate that we have not yet received your response. We would still appreciate your assistance.

A duplicate questionnaire and return envelope are enclosed in case you have misplaced the originals.

In order to meet our planning deadlines, we need your response no later than May 24, 1986.

Thank you for your time and cooperation.

Sincerely,

Woodward S. Bousquet
Chair, Environmental Studies Program
Warren Wilson College

Ralph W. Jarvis
Exchange Associate
Appalachian Consortium

Preserving, Protecting and Promoting Southern Appalachia

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Southern Highlands Environmental Project

ENVIRONMENTAL EDUCATION INSTITUTE
at Warren Wilson College, July 25-29, 1988

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*Guest Observers

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Southern Highlands Environmental Project

ENVIRONMENTAL EDUCATION INSTITUTE

Monday, July 25 - Friday, July 29, 1988

at Warren Wilson College, Swannanoa, North Carolina

REVISED SCHEDULE

Monday, July 25: Introduction

9:00am	Arrival, registration in Sage Dormitory
10:00am	Welcome
10:20am	Introduction (schedule, expectations, participants)
11:00am	Environmental Education: What Is It and How Does It Fit In?
noon	Lunch
1:00pm	Geography of Appalachia Some Regional Concerns
2:00pm	Emerging Patterns in the Southern Highlands (using the Southern Highlands atlas) Guest: Dr. Robert Reiman, Appalachian State University
3:00pm	Communities as Classrooms: Setting the Stage (field trip to Asheville) The Transformation of Western North Carolina (Beaucatcher Cut) A Present-day Perspective--Ms. Karen Fields, Asheville-Buncombe Discovery
5:30pm	Supper
7:00pm	Getting Started: Identifying and Classifying Issues Strategies for Community Study
10:00pm	Evening session ends

Tuesday, July 26: Regional Issues and Some Resources for Studying Them

7:30am	Student Center opens for breakfast
8:30am	Panel Presentations and Discussion: Toxic and Hazardous Wastes (overview, video, panel comments, questions)
10:30am	Regional Organizations (presentations followed by exhibits)
noon	Lunch
1:00pm	Environmental Education Curriculum Workshop: The CLASS Project
3:00pm	Break
3:30pm	Simulation: Siting a Waste Disposal Facility Guest: Ms. Melva Okun, Institute for Environmental Studies, UNC-Chapel Hill
5:30pm	Supper
8:00pm	Night Walk (optional)

Wednesday, July 27: Great Smokies Field Trip

7:30am	Student Center opens for breakfast
8:30am	Depart Warren Wilson College
10:30am	Arrive at Great Smoky Mountains National Park (GSMNP) Appalachian Cultures and the Environment: Pioneer Farm Host: Mike Adams, GSMNP and Great Smoky Mts. Natural History Association
noon	Lunch
1:00pm	Depart Oconoluftee Visitor Center
2:00pm	Arrive at Clingman's Dome parking lot Managing the Appalachian Forest (air pollution monitoring, GSMNP staff)
4:30pm	Appalachian Cultures and the Environment: Cherokee
6:00pm	Picnic supper
9:30pm	Arrive back at Warren Wilson College

(continued)

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REVISED SCHEDULE (continued)

Thursday, July 28: Community Investigation

7:30am	Student Center opens for breakfast
8:30am	Dealing with Values and Balancing Opposing Viewpoints
9:30am	Sharing Session (tell about your "tried and true" teaching ideas)
10:00am	Different Places, Similar Regions: Appalachia and the North Atlantic Guest: Ms. Margo Murphy, Atlantic Center for the Environment
10:30am	Break
10:40am	Preparing for Asheville Investigations
noon	Lunch
1:00pm	Asheville Community Investigations (participants study issues in Asheville)
5:30pm	Supper
7:00pm	Preparation time for Asheville Reports
7:30pm	Asheville Investigation Reports
8:30pm	Identifying Solutions and Taking Action
10:00pm	Evening session ends

Friday, July 29: Planning and Evaluation

7:30am	Student Center opens for breakfast Move out of Sage Dorm by 8:45am
9:00am	Bioregionalism: Putting It All Together Guest: Ms. Marnie Muller, Katuah Journal
10:30am	Overcoming Barriers to Studying Communities with Your Students
11:30am	Community Festivals, Forums, and Other Ways to Share Your Results
noon	Lunch
1:00pm	Planning Your Community Investigation
2:30pm	Beyond next June ... Institute Summary and Evaluation
3:00pm	Departure

The Appalachian Consortium
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Appalachian State University
Boone, North Carolina 28608

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